

CLAIMS

- Sub 1*
1. An adhesive for semiconductor parts, comprising, as a base polymer, at least one cyclic structure-
5 containing thermoplastic polymer selected from the group consisting of (a) a cycloolefin polymer and (b) an aromatic-condensed polymer having a repeating unit of an aromatic ring in its main chain, and having a number average molecular weight of 1,000 to 500,000.
- 10 *Sub 1*
2. The adhesive for semiconductor parts according to Claim 1, wherein the cyclic structure-containing thermoplastic polymer has a functional group in a proportion of 5 to 100 mol% based on the total number of
15 monomer units in the polymer.
3. The adhesive for semiconductor parts according to Claim 2, wherein the functional group is an alcohol group, epoxy group, carboxyl group, acid anhydride group or
20 silanol group.
- a Sub 1*
4. The adhesive for semiconductor parts according to Claim 1 ~~or 2~~, wherein the cycloolefin polymer (a) is at least one thermoplastic norbornene resin selected from the
25 group consisting of (1) an addition (co)polymer of an alicyclic monomer having a norbornene ring, (2) an addition copolymer of an alicyclic monomer having a

norbornene ring and a vinyl compound, (3) a ring-opening
(co)polymer of an alicyclic monomer having a norbornene
ring and (4) a hydrogenated product of the ring-opening
(co)polymer of the alicyclic monomer having a norbornene
5 ring.

a 5. The adhesive for semiconductor parts according to
Claim 1 ~~or 2~~, wherein the cycloolefin polymer (a) is at
least one selected from the group consisting of an
10 addition polymer of a cyclic conjugated diene monomer and
a hydrogenated product of the addition polymer.

a 6. The adhesive for semiconductor parts according to
Claim 1 ~~or 2~~, wherein the aromatic-condensed polymer (b)
15 is poly(phenylene ether).

a 7. (Amended) The adhesive for semiconductor parts
according to Claim 1 ~~or 2~~, which is composed of a resin
composition comprising a non-conductive inorganic filler
20 in a proportion of 1 to 100 parts by weight per 100 parts
by weight of the cyclic structure-containing thermoplastic
polymer.

a 8. (Amended) The adhesive for semiconductor parts
25 according to Claim 1 ~~or 2~~, which is composed of a resin
composition comprising a conductive filler in a proportion
of 1 to 100 parts by weight per 100 parts by weight of the
cyclic structure-containing thermoplastic polymer.

Amended

9. The adhesive for semiconductor parts according to Claim 8, which is an anisotropic conductive material.

a 5 10. (Amended) The adhesive for semiconductor parts according to Claim 1 ~~or 2~~, which is composed of a resin composition comprising a low-molecular weight resin in a proportion of 1 to 50 parts by weight per 100 parts by weight of the cyclic structure-containing thermoplastic polymer.

10 11. (Amended) The adhesive for semiconductor parts according to Claim 1, wherein the glass transition temperature of the cyclic structure-containing thermoplastic polymer is at least 100°C.

15 *Sub 3* 12. The adhesive for semiconductor parts according to Claim 2, wherein the cycloolefin polymer (a) is a modified polymer obtained by graft-modifying a hydrogenated product of a ring-opening copolymer of tetracyclododecene or a
20 derivative thereof, an addition copolymer of tetracyclododecene or a derivative thereof and a vinyl compound, or a hydrogenated product of an addition polymer of 1,3-cyclohexadiene with a functional group-containing unsaturated compound.

25 13. The adhesive for semiconductor parts according to Claim 7, wherein the non-conductive inorganic filler is silica.

Amended

14. The adhesive for semiconductor parts according to Claim 10, wherein the low-molecular weight resin is an epoxy resin.

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a 15. (Amended) The adhesive for semiconductor parts according to Claim 1 ~~or 2~~, which is composed of a resin composition comprising, per 100 parts by weight of the cyclic structure-containing thermoplastic polymer, 1 to 100 parts by weight of a filler and 1 to 50 parts by weight of a low-molecular weight resin.

Sub
a 16. An adhesive film for semiconductor parts, which is obtained by forming a film from the adhesive according to any one of Claims 1 ~~to 15~~.

15 17. A semiconductor part package obtained by bonding a semiconductor part to a substrate with a solution or film of the adhesive according to any one of Claims 1 ~~to 15~~.

20 18. A process for producing a semiconductor part package, which comprises laminating the adhesive film according to Claim 16 on the surface of a substrate, placing a semiconductor part on the adhesive film, bonding 25 the semiconductor part to the substrate by heating and pressurizing the adhesive film at a temperature not lower than the glass transition temperature of the cyclic

structure-containing thermoplastic polymer, and then cooling the adhesive film.

- Sub
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- 5 19. A process for producing a semiconductor part package, which comprises applying a solution of the adhesive according to ~~any one of Claims 1 to 15~~ to the surface of a substrate, drying a solvent to form an adhesive layer, placing a semiconductor part on the adhesive layer, bonding the semiconductor part to the
- 10 substrate by heating and pressurizing the adhesive layer at a temperature not lower than the glass transition temperature of the cyclic structure-containing thermoplastic polymer, and then cooling the adhesive layer.
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